

# POWERVERTER PVPro A & C Range

## 12/24VDC USB CHARGERS

### A & C PORT USB CHARGING FOR 12V AND 24VDC APPLICATIONS

The PowerVerter PVPro Range of USB chargers has been completely updated into the A & C Range, amalgamating all the great design concepts of USB charging on vehicles into one simple range. Models are now available offering both USB A and C connections, including Single and Double A as well as Single C and a combined Dual A & C output version.

As well as standard (rear fit), all models are also available in front fit versions. This is a popular option for when rear space access is limited, and also allows for quick removal and replacement if required.

Ingress protection is to IP30 as standard. However, the PVPWp versions retain the slimline design and offer enhanced protection to IP65 (not connectors). The ruggedised PV65R versions which are also IP65 (not connectors), offer additional transient protection and are particularly suitable in more demanding environments such as for installation into vehicle walls.

Output power performance has also been enhanced. As well as charging both Apple and Android mobile phones, the USB C models offer higher current outputs for limited charge assistance on tablets and laptops.

Standard versions require only 20mm (typical) rear space and can easily be installed in bus and coach seat backs, walls and dashboards. A series of installation pod designs enable retrofit options for underseat, table and wall mounting.

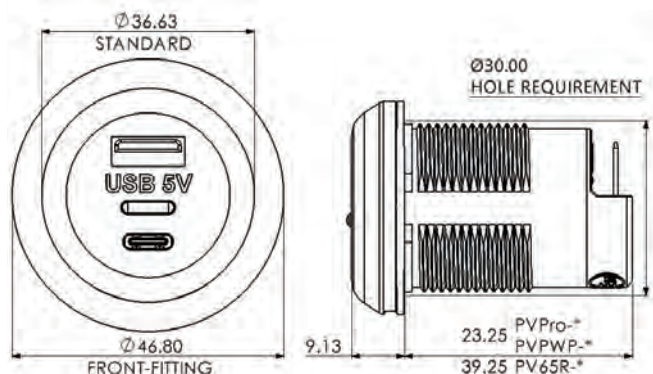


The **PV65R-ACff** offers both A & C outputs, Front fitting bezel ring and IP protection to IP65

### THE RANGE

All units are installed through a 30mm hole. Standard format units are retained by a rear nut while the front fit versions include a bezel with tamperproof cover ring. Input power is by way of two 6.3mm push-in flat fit automotive terminals.

Dimensionally the A and C Chargers are the same and are interchangeable with the ever-popular PVPro Range. Electronically the designs include reverse polarity protection and automatic short circuit protection, so in the event of tampering or compromise the unit will shut down, then restart again, once the fault has been removed.



PVPro-A  
Single output  
A connector



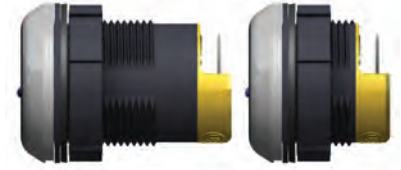
PVPro-AA  
Double output  
A connector



PVPro-C  
Single output  
C connector



PVPro-AC  
Dual output A  
& C connector



**IP65 versions available**  
PV65R - ruggedised and PVPWp,  
both IP65 rated; indicated by  
yellow rear cap

The new A & C range has the following key benefits:

- Both type-A and type-C outputs
- USB A & C dual output available
- Apple and Android compatible
- Dashboard, slimline seat back or underseat pod configurations
- LED output indicator
- IP30 or IP65 ingress protection -see Product Overview
- CE, E and UKCA marked



**All products are available in front fit options for when rear access is limited**



### WARRANTY

The PVPro A and C range of chargers are manufactured using rugged components to provide years of service in demanding commercial environments and are covered by a three year return to base guarantee.

# CHOOSE YOUR USB PRODUCT

| PART NUMBER   | DESCRIPTION   | DIMENSIONS (mm)                        | WEIGHT |
|---|---|--|--------|
| <b>Standard IP30 USB Chargers:</b>  |   |  |        |
| <b>PVPro-A</b>  | USB 'A' Single output 12/24-5V, 2.1A                  | Ø37 x 33; Hole Ø30; Rearspace typ.22   | 20g    |
| <b>PVPro-AA</b>   | USB 'A' Double output 12/24-5V, 3.0A                  | Ø37 x 33; Hole Ø30; Rearspace typ.22   | 24g    |
| <b>PVPro-C</b>  | USB 'C' Single output 12/24-5V, 2.5A                  | Ø37 x 33; Hole Ø30; Rearspace typ.22   | 20g    |
| <b>PVPro-AC</b>   | USB 'A' & 'C' Dual output 12/24-5V, 3.6A              | Ø37 x 33; Hole Ø30; Rearspace typ.22   | 25g    |
| <b>Ruggedised IP65 USB Chargers:</b>  |   |  |        |
| <b>PV65R-A</b>  | USB 'A' Single output rugged, IP65 12/24-5V, 2.1A     | Ø37 x 49; Hole Ø30; Rearspace typ.36   | 36g    |
| <b>PV65R-AA</b>   | USB 'A' Double output rugged, IP65 12/24-5V, 3.0A     | Ø37 x 49; Hole Ø30; Rearspace typ.36   | 41g    |
| <b>PV65R-C</b>  | USB 'C' Single output rugged, IP65 12/24-5V, 2.5A     | Ø37 x 49; Hole Ø30; Rearspace typ.36   | 36g    |
| <b>PV65R-AC</b>   | USB 'A' & 'C' Dual output rugged, IP65 12/24-5V, 3.6A | Ø37 x 49; Hole Ø30; Rearspace typ.36   | 42g    |
| <b>Slimline IP65 USB Chargers:</b>  |   |  |        |
| <b>PVPWp-A</b>  | USB 'A' Single, slimline, IP65 12/24-5V, 2.1A         | Ø37 x 49; Hole Ø30; typ.22             | 26g    |
| <b>PVPWp-AA</b>   | USB 'A' Double, slimline, IP65 12/24-5V, 3.0A         | Ø37 x 49; Hole Ø30; typ.22             | 30g    |
| <b>PVPWp-C</b>  | USB 'C' Single, slimline, IP65 12/24-5V, 2.5A         | Ø37 x 49; Hole Ø30; typ.22             | 26g    |
| <b>PVPWp-AC</b>   | USB 'A' & 'C' Dual, slimline, IP65 12/24-5V, 3.6A     | Ø37 x 49; Hole Ø30; typ.22             | 31g    |
| For front fit versions, please add the suffix Ff, e.g. PVPro-AFf, PV65R-ACFf etc. The detachable ring in both standard and front fit format can be customised for branding and advertising purposes. Please ask our sales team. |   |  |        |
| <b>Accessories:</b>   |   |  |        |
| <b>USB-POD</b>  | Underseat mounting pod for USB chargers               | W 60, H 52, D 80                       | 55g    |
| <b>USB-TPOD</b>   | Table mounting pod for 2x USB chargers                | W 103, H 44.5, D 88                    | 62g    |
| <b>USB-WPOD</b>   | Wall mounting pod for USB chargers                    | W 60.5, H 76, D 26                     | 22g    |
| <b>PV-USB-H1</b>  | Standard 1.2 wiring with in line fuse                 | 1x red 1.2m, 1x black 1.2m, 1x 2A fuse | 50g    |

## TECHNICAL DATA

|                                      |  |
|--------------------------------------|--|
| Input voltage range                  | 9-32Vdc  |
| Output voltage                       | 5.2Vdc +/- 0.2V  |
| Max Output Power                     | Single A: 2.1A, Double A: 3.0A, Single C: 2.5A, Dual A & C: 3.6A   |
| Application                          | Charging of USB devices including Apple and Android  |
| Transient voltage protection         | Meets ISO7637-2 International standard for 12/24V vehicles   |
| Output noise                         | <50mV pk-pk  |
| Off load current (quiescent current) | <2.5mA   |
| Isolation                            | Non-isolated >400Vrms between casing and terminals   |
| Power conversion efficiency          | 90%  |
| Operating temperature                | -25°C to +55°C to meet this specification table  |
| Storage temperature                  | -25°C to +100°C  |
| Operating humidity                   | 95% max., non-condensing   |
| Casework                             | Dark grey polycarbonate body, contrasting trim ring  |
| Connections                          | Input: 6.3mm push-in flat blade connectors<br>Output: USB 'A' single/double socket, USB 'C' socket   |
| Output indicator                     | Blue LED output indication   |
| Mounting method                      | 30mm diameter hole, with rear nut or front fit bezel   |
| Safe area protection:                | <ul style="list-style-type: none"> <li>Over Current Limited by current sensing circuit</li> <li>Over heat Limited by temperature sensing circuit</li> <li>Overvoltage and Undervoltage Limited by sensing circuit</li> <li>Reverse Polarity Protected by sensing circuit</li> <li>Transients Protected by filters and rugged component selection</li> <li>Catastrophic protection Internal fuse (external fusing recommended)</li> </ul> |
| Approvals                            | 2014/30/EU The general EMC directive<br>Regulation 10 The automotive directive<br>93/68/EEC The CE marking directive<br>IP65 approved (PV65R and PVPWp)<br>Regulation R118 (Automotive Fire)<br>EN61373 vibration  |
| Designed to                          | EN50498, ISO 7637-2, R118 & R080   |
| Markings                             | CE, UKCA and E marked  |
| IP Rating                            | IP30/IP65 according to product selection (For IP65 USB connector excluded). Cleaning: wipe with damp cloth, do not spray.  |